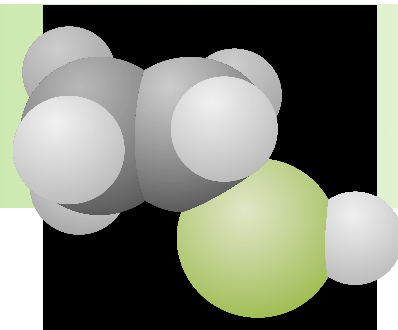


CHEMICALS

Project Fact Sheet



2001 NATIONAL LABORATORY AND INDUSTRY PARTNERSHIPS

BENEFITS

- Increases energy savings
- Increases revenues
- Decreases environmental impacts
- Decreases amount of waste produced by recovering saleable products from wastes
- Increases industry competitiveness

APPLICATIONS

These new technologies are applicable throughout the chemical processing industry and provide cross-cutting applications to several other energy intensive industries.

The U. S. Department of Energy's Office of Industrial Technologies (OIT) Chemicals Industry of the Future recently awarded five new projects to research teams from National Laboratories and industry. The projects respond to priorities for research and development identified in *Technology Vision 2020: The U.S. Chemical Industry* and help meet national goals for energy and the environment. The cost-shared projects encourage researchers and industrial companies to collaborate in the development of innovative technology, and the projects provide incentives to bring the technology to the marketplace.

Autothermal Reformer

Sandia National Laboratory will lead industrial team members from Kellogg Brown & Root, Inc., and Sud Chemie, Inc., in addressing key technical issues surrounding the advanced, autothermal reforming of natural gas and carbon dioxide to produce synthesis gas for use in the production of liquid hydrocarbons.

Membranes for Corrosive Oxidations

Argonne National Laboratory will lead industrial team members from UOP LLC and Unitel Technologies, Inc. in developing porous hydrophilic membranes that are highly resistant to oxidative and corrosive conditions. The membranes will then be deployed to recover and purify high-tonnage chemicals such as hydrogen peroxide and other oxychemicals.

Short-Contact-Time Reactors

Sandia National Laboratory will lead industrial team members from Praxair, Inc., and Reaction Design, Inc. in using computational techniques and catalyst characterization to enable the scale-up of a dramatically new process for producing synthesis gas from methane.

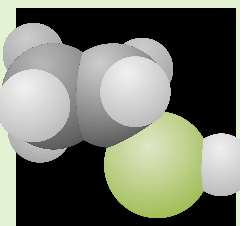
Mesoporous Membranes for Olefin Separations

Los Alamos National Laboratory will lead industrial team members from BP Amoco Corporation and MEDAL Air Liquide in a project to demonstrate the economic, technical, and commercial potential of a novel membrane separation process for olefin plants. The end-result will be the design of a commercially scalable pilot plant that uses uniquely optimized mesoporous membrane systems to separate olefinic mixtures from light gas by-products.

Molecular Simulation for the Chemical Industry

Sandia National Laboratory will lead industrial team members from Air Products and Chemicals, Inc., E.I. DuPont de Nemours & Co., Inc., and Ford Motor Company in overcoming technology barriers to atomistic-scale simulations of chemical processing.





OIT CHEMICALS TEAM

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